

DelDOT Stormwater Management (SWM) Report Format

The stormwater management report should be assembled into distinctive sections with tabs and submitted in a three ring binder during the review process. The final approved report shall include all applicable data in one electronic file in pdf format. The report should include all data, drawings, charts, maps, calculations, and explanations needed which lead to a clear understanding of the studies performed, methods and criteria used, results obtained, and conclusions reached. For any calculations presented, at least one example must be shown in its' entirety. When writing out this report, take it from the perspective that anyone not knowing anything about this particular project would be able to read this report and easily understand the stormwater management aspects. This report shall be organized as follows:

Title Page

At a minimum show the DelDOT Project Name, DelDOT Contract Number, Date, DelDOT Section or Consultant Name, and SWM Designer's Name

Table of Contents

Project Narrative

Provide a brief summary of the project location and scope.

Proposed Stormwater Management Measures

Discuss succinctly the overall project stormwater management approach and then break it down per drainage area. If there are any special overall design considerations for this project (i.e. flooding in certain areas, drains to existing SWM facilities), that can be explained in this section as well. For the individual areas, discuss the existing site conditions and which management measures were chosen. Provide a narrative of the stormwater management strategy based on physical site constraints such as topography, soils, water table, etc., and regulatory requirements. Also discuss how the R_{Pv}, Conveyance Event (C_v), and Flooding Event (F_v) are being handled for regulatory compliance. If the proposed measures deviate from the preferred methods in accordance with the latest update of the Delaware Sediment and Stormwater Regulations, include some discussion and justification as to why the preferred methods were ruled out.

Appendices

See pages 2 and 3.

Appendix A – Background Information (for overall project)

Background information will include much of what was provided in Concurrence Meeting #1 as well as additional information obtained during the design process. Provide printouts of the project location with the below information marked as appropriate. Multiple sets of needed information can be shown on the same sheet as long as it is easily distinguishable as determined by the Stormwater Engineer.

List of required information (if applicable):

- Aerial map overlaid with proposed alignment
- Project boundary showing streams and water features
- Existing 2' contours
- Tax ditches
- Wellhead protection areas
- Aquifer recharge areas
- 2012 land use / land cover
- Hydrologic soil groups
- Wetlands
- Runoff reduction feasibility
- Depth to water table
- Existing downstream conveyance and agreed upon POA(s)
- Documentation of existing structures (size, type, slope, etc.).

GIS Web application link where most information can be found: [DSSR GIS Web Application](#)

Additional Information Required

Project Level DURMM (PLD) containing the following sheets (C.A.RCN, LOD, OLOD, RPV, DURMM Report)

Limit of Disturbance (LOD) delineation for the PLD at an easily visible scale

Appendix B, C, D, etc. – Individual BMP Information

Each individual BMP will have its' own appendix and everything concerning that BMP will be covered in that section. This includes but is not limited to: individual BMP contributing drainage area map with the time of concentration (Tc) path broken down into its' component parts and delineated, LOD, Outside Limit of Disturbance (OLOD), soil type classification, point of analysis (POA), RPv, Cv, Fv, soil boring information, infiltration test information, DURMM sheets (same as the PLD), etc.

Use the '*DelDOT Cv and Fv Compliance Flowchart*' to determine if the project will comply with the appropriate storm events. The flowchart should not be reproduced as part of this report. All hydrologic computations for water quantity shall be completed and necessary paperwork submitted using outputs from the HydroCAD program. Drainage computations will be as

described in Chapter 6 of the *DelDOT Road Design Manual*. All material used to support Cv and Fv compliance i.e. calculations, drawings, maps, etc. shall be printed out and attached in the Appendix and be easily distinguishable as determined by the Stormwater Engineer.

When designing retention and/or detention facilities i.e. wet ponds, dry ponds, or infiltration basins, the below criteria shall be included in the appendix as appropriate. This is to include all calculations and drawings and be easily distinguishable as determined by the Stormwater Engineer.

- Foundation cutoff core and embankment design
- Anti-floatation check for pond outlet structure
- Sizing and spacing of anti-seep collars
- Riprap protection of outflow areas from each BMP outlet structure
- Sediment forebay sizing

All stormwater management facilities as shown in the plans will also be shown in this appendix. If the plans do not have separate stormwater management plan sheets, than the appropriate construction plan sheet will suffice.